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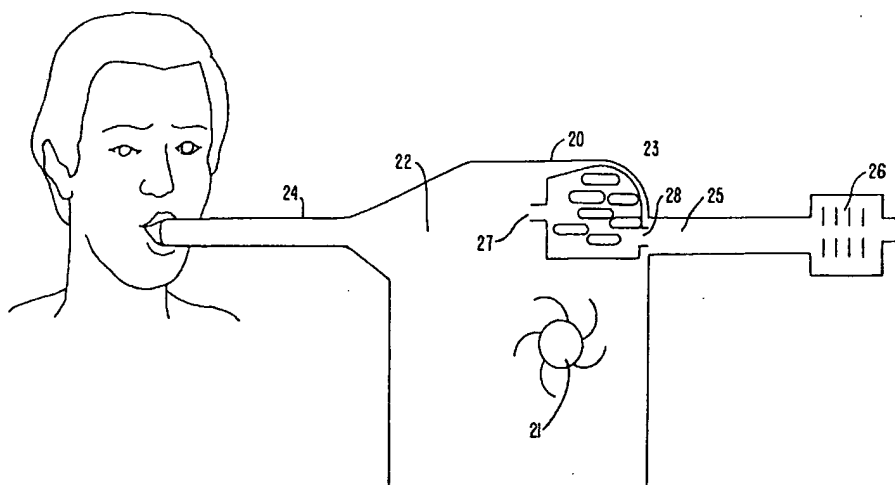
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(21) International Application Number: PCT/US99/13786  (22) International Filing Date: 17 June 1999 (17.06.99)  (30) Priority Data: 60/090,012 19 June 1998 (19.06.98) US 60/091,179 30 June 1998 (30.06.98) US  (71) Applicants (for all designated States except US): CALI- FORNIA INSTITUTE OF TECHNOLOGY [US/US]; 1200 E. California Boulevard, Pasadena, CA 91125 (US). CYRANO SCIENCES, INC. [US/US]; 73 N. Vinedo Avenue, Pasadena, CA 91107 (US).  (72) Inventors; and (75) Inventors/Applicants (for US only): LEWIS, Nathan, S. [US/US]; 5259 Gould Avenue, La Canada, CA 91011 (US). SEVERIN, Erik, J. [US/US]; 1440 Orlando Avenue, San Marino, CA 91108 (US). WONG, Bernard [US/US]; 4846 Via Colina, Los Angeles, CA 90042 (US). KELSO, David, M. [US/US]; 741 Eighth Street, Wilmette, IL 60091 (US). MUNOZ, Beth, C. [US/US]; 451 S. Oakland Avenue #8, Pasadena, CA 91101 (US).		(74) Agents: SNYDER, Joseph, R. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111-3834 (US).  (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

(54) Title: TRACE LEVEL DETECTION OF ANALYTES USING ARTIFICIAL OLFACTOMETRY



(57) Abstract

The present invention provides a device (20) for detecting the presence of an analyte, including: a sample chamber (22) having a fluid inlet port (24) for the influx of the analyte; a fluid concentrator (23) in flow communication with the sample chamber (22) wherein the fluid concentrator (23) has an absorbent material capable of absorbing the analyte and capable of desorbing a concentrated analyte; and an array of sensors (26) in fluid communication with the concentrated analyte. Methods for detection of various medical conditions, including halitosis and periodontal disease are also disclosed.